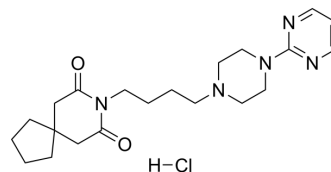


Buspirone hydrochloride

Cat. No.:	HY-B1115
CAS No.:	33386-08-2
Molecular Formula:	C ₂₁ H ₃₂ ClN ₅ O ₂
Molecular Weight:	421.96
Target:	5-HT Receptor; Reactive Oxygen Species
Pathway:	GPCR/G Protein; Neuronal Signaling; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 1 year; -20°C, 6 months (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 100 mg/mL (236.99 mM)
 DMSO : 50 mg/mL (118.49 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.3699 mL	11.8495 mL	23.6989 mL
	5 mM	0.4740 mL	2.3699 mL	4.7398 mL
	10 mM	0.2370 mL	1.1849 mL	2.3699 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (236.99 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (5.92 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (5.92 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (5.92 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Buspirone hydrochloride is a 5-HT_{1A} receptor agonist. Buspirone hydrochloride can be used for anxiety and depression research^{[1][2]}.

In Vitro

Buspirone hydrochloride (0-400 μg/mL; 6 hours) has cytotoxic effect in Lymphocytes^[1].

Buspirone hydrochloride (0-180 µg/mL; 0-3 hours; Lymphocytes) induces ROS formation, MMP collapse, lipid peroxidation, lysosomal damage and elevation of glutathione disulfide (GSSG)^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay^[1]

Cell Line:	Lymphocytes
Concentration:	0, 4, 20, 40, 200 and 400 µg/mL
Incubation Time:	6 hours
Result:	Decreased cell viability in a dose-dependent manner.

In Vivo

Buspirone hydrochloride (1-5 mg/kg; i.p. and i.g.; for 5 days; C57BL/6N mice) reduces anxiety/depression behaviors^[2].

?Buspirone hydrochloride (1-5 mg/kg; i.p. and i.g.; for 5 days; C57BL/6N mice) restores IS-shifted β-diversity in the gut microbiota^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male C57BL/6N mice ^[2]
Dosage:	1 and 5 mg/kg
Administration:	Oral gavage and intraperitoneal injection; for 5 days
Result:	Reduced TNF-α expression and NF-κB+/Iba1+ cell population in the hippocampus and myeloperoxidase activity and NF-κB+/CD11c+ cell population in the colon.

Animal Model:	Male C57BL/6N mice ^[2]
Dosage:	1 and 5 mg/kg
Administration:	Oral gavage and intraperitoneal injection; for 5 days
Result:	Reduced the IS- or EC-induced gut Proteobacteria population.

CUSTOMER VALIDATION

- Mol Pharmacol. 2023 Nov;104(5):230-238.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Salimi A, et, al. Analysis of Toxicity Effects of Buspirone, Cetirizine and Olanzapine on Human Blood Lymphocytes: in Vitro Model. Curr Clin Pharmacol. 2018;13(2):120-127.

[2]. Kim JK, et, al. Buspirone alleviates anxiety, depression, and colitis; and modulates gut microbiota in mice. Sci Rep. 2021 Mar 17;11(1):6094.

Caution: Product has not been fully validated for medical applications. For research use only.

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